



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/900,743

07/06/2001

Yu-Chong Tai

06618/662001 / CIT 3252

4560

20985 7590 05/07/2003

FISH & RICHARDSON, PC
4350 LA JOLLA VILLAGE DRIVE
SUITE 500
SAN DIEGO, CA 92122

EXAMINER

ELLINGTON, ALANDRA

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/900,743

Applicant(s)

TAI ET AL.

Examiner

Alandra N Ellington

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 2/14/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 28-46 and 60-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33-46, 60-64, 66 and 67 is/are allowed.
- 6) ☒ Claim(s) 1-6, 9, 15 and 29-32 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 10-14, 28 and 65 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. New corrected drawings are required in this application because the drawings are too dark and it is hard to decipher the difference between elements in the figures. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2855

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 9, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Chapman et al (6,240,785 B1).

- A. With respect to Claim 1, Chapman et al discloses a device, comprising:
A substrate 18 (col. 3 lines 40-42); and
A surface micromachined pressure sensor, formed on said substrate 18, and formed to be capable of sensing pressures that are greater than 6000 psi (col. 3 lines 40-44, col. 4 lines 16-23).
- B. With respect to Claim 2, Chapman et al discloses a device as in claim 1, wherein said pressure sensor includes at least a plurality of strain sensitive resistors (col. 3 lines 40-44).
- C. With respect to Claim 3, Chapman et al discloses a device as in claim 2, wherein said strain sensitive resistors are arranged into a Wheatstone bridge (col. 3 lines 40-44).
- D. With respect to Claim 9, Chapman et al discloses a device as in claim 1, wherein said surface micromachined pressure sensor is capable of sensing pressures greater than or equal to 10,000 psi (col. 3 lines 40-44, col. 4 lines 16-23).
- E. With respect to Claim 29, Chapman et al discloses a device as in claim 1, wherein said substrate 18 is formed of semiconductor material (col. 3 line 42).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4-6, 15, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman et al (6,240,785 B1) in view of Fisher (6,378,378).

- A. With respect to Claim 4, Chapman et al discloses the claimed invention except for strain sensitive resistors being formed of deposited polysilicon. Fisher teaches strain sensitive resistors 52 formed of deposited polysilicon (col. 5 lines 4-12 {Figs, 5E, 5F}). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Chapman et al with the teachings of Fisher to form the strain sensitive resistors of deposited polysilicon for the purpose of using a material that would protect the sensor in high pressures and temperatures.
- B. With respect Claim 5, Fisher discloses surface micromachined pressure includes a diaphragm layer 48, formed from a silicon nitride layer 64,70 (col. 5 lines 62-68, col. 6 lines 1-3 {Fig. 5E}).
- C. With respect to Claim 6, Fisher discloses strain sensitive resistors 52 are buried in said silicon nitride layer 64,70 ({Fig. 5F}).
- D. With respect to Claim 15, Fisher discloses resistors 52 formed of deposited polysilicon (col. 5 lines 4-12 {Figs, 5E, 5F}).

Art Unit: 2855

- E. With respect to Claim 30, Fisher discloses a diaphragm layer 48 formed of a plurality of separated layers 64, 70 (col. 6 lines 103 {Fig. 5E}).
- F. With respect to Claim 31, Fisher discloses separated layers 64,70 are formed of silicon nitride (col. 6 lines 1-3).
- G. With respect to Claim 32, Fisher discloses at least one of said separated layers 64,70 is formed of silicon nitride, and one of said separated layers 64,70 is formed of polysilicon (col. 6 lines 1-3).

Allowable Subject Matter

Claims 7, 8, 10-14, 28, and 65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 33-46, 60-64, 66, and 67 are allowed.

Response to Arguments

Applicant's arguments with respect to claims 1-15, 28-46, and 60-67 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- A. Kurtz et al (6,327,911 B1) discloses a high temperature pressure transducer fabricated.

Art Unit: 2855

B. Kurtz et al (6,058,782) discloses hermetically sealed ultra high temperature silicon carbide pressure transducers and method for fabricating,

C. Carr et al (5,637,905) discloses high temperature, pressure and displacement microsensors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alandra N Ellington whose telephone number is (703)306-4449. The examiner can normally be reached on Monday - Friday, 6:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (703)305-4816. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)305-3839 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Alandra Ellington
Art Unit 2855

AE

ane
May 2, 2003


EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800